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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,423	03/21/2001	Masayuki Yamamoto	36992.00066	4089

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EXAMINER

VIG, NARESH

ART UNIT	PAPER NUMBER
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3629

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/814,423

Applicant(s)

YAMAMOTO ET AL.

Examiner

Naresh Vig

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The information disclosure statement (IDS) submitted on 22 March 2002 was filed after the mailing date of the application on 21 March 2001. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 11 – 19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory

subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts.

In the present case, claims 11 – 19 only recites an abstract idea. The recited steps of merely obtaining information about a customer usage of the system and performing a mathematical analysis to determine the bill for charging the customer does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. These steps only constitute an idea of how to generate a bill for system usage.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case, the claimed invention produces bills (i.e., repeatable) used for charging the user for using the system (i.e., useful and tangible).

Although the recited process produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, claims 11 – 19 are deemed to be directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lumelsky et al. US Patent 6,516,350 in view of an article Two Thumbs Up hereinafter known as Coyote.

Regarding claim 1, Lumelsky discloses managing storage access (distributed system for the management of distributed resources interconnected by a computer network and comprised of a plurality of limited supply resources (such as those associated with multimedia content servers, e.g., bandwidth, CPU, storage, etc.,)) [abstract]. Lumelsky discloses:

- a disk system [Fig. 2], comprising:

- at least one of a plurality of logical device storage units [Fig. 2];

- at least one of a plurality of interface ports (ability of clients connecting to the disk) [Fig. 2]; and

- a control unit, connected to, and operable to control input and output to and from said at least one of a plurality of logical device storage units through said at least one of a plurality of interface ports [Fig. 6];

- a disk system manager, operative to manage information storage to, retrieval from, allocation of, and de-allocation of said at least one of a plurality of logical device storage units [Fig. 6]; and

a storage access service system, comprising a memory operative to contain a plurality of user information operative to grant authorization to access said at least one of a plurality of logical device storage units based upon said user information [Fig. 6].

Lumelsky does not disclose time based component (for billing purpose). However, Lumelsky discloses to have per-flow policies such as policy for service delivery, including availability, quality, interactivity level, etc. [col. 9, lines 61 – 63]. Official notice it taken time base component have been used to generate billing. For example, telephone calls (services used by the user for accessing telephone carrier's services) vary in prices based upon the time they place the call. Coyote teaches that SprintPCS offer calling plans based upon time of user. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that one of ordinary skill in the art to modify Lumelsky as taught by Coyote [page 1] and implement billing and pricing based upon time to control the peak demand during the normal business hours.

Regarding claim 2, Lumelsky does not disclose time zone information, plurality of billing rates corresponding to said time zone information, and wherein said storage access service system determines charges for user access service based upon said time zone information, said at least one of a plurality of billing rates, and an access time forat least one of a plurality of users. However, Lumelsky discloses to have policies and billing capability. Coyote discloses Sprint offering specials of one of their calling plans (Sprint has plurality of calling plans). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify Lumelsky as taught by Coyote to be able to charge customers based upon the usage in their local time zone.

Regarding claim 3, Lumelsky discloses to have billing capability. Official notice it taken that it would have been obvious to one of ordinary skill in the art at the time the invention was made that it would have been obvious to one of ordinary skill in the art billing is a batch process which charges customers for the usage of the system (charges for user access service based upon history of accesses for said at least one of a plurality of users).

Regarding claim 4, Lumelsky discloses to have policies and billing capability. Lumelsky does not discloses plurality of time periods for each of individual instances of said time zone information, and wherein said storage access service system determines charges for user access service based upon said history of accesses for said at least one of a plurality of users by comparing individual instances selected from said history of accesses to said selected ones of said plurality of time periods to determine applicable billing rates from among said at least one of a plurality of billing rates, and thereupon computing a cost of access by summing a cost for each of said individual instances selected from said history of accesses multiplied by said applicable billing rates. However, Coyote discloses "the beauty of Sprint is the ability to roam in any large city without extra charges" (Sprint has capability determine time periods (various time

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zones in USA) and bill customers based upon the calling plan). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lumelsky as taught by Coyote to determine time periods for billing to bill the customers as per the agreed upon terms and conditions of the contract.

Regarding claim 5, Lumelsky does not disclose at least one of a plurality of billing rates are determined from a service level agreement (SLA). However, Coyote discloses billing rates determined from SLA. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lumelsky as taught by Coyote to bill the customers based upon the terms and conditions of the contract.

Regarding claim 6, Lumelsky discloses to have policies and billing capabilities. Official notice it taken that it would have been obvious to one of ordinary skill in the art at the time the invention was made that it is a business choice decide billing rate policies, and, bill the customer based upon the usage of the system. Coyote discloses plurality of plans for access to cellular phone (product) services. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lumelsky as taught by Coyote to charge customers according to agreed upon SLA services.

Regarding claims 7 – 10, Lumelsky discloses to have policies and billing capabilities [col. 9, lines 61 – 63].

Regarding claim 11, Lumelsky discloses managing access to storage resources, comprising:

forming an agreement between access providers and users, said agreement comprising user information including an identity of a user (agreement is between 2 or more parties) [col. 13, lines 45 – 48];

an identity of a resource, and at least one of a plurality of billing rates for accessing said resource (policy and billing capability) [Fig. 6];

granting access to said resource based upon said identity of said user, said identity of said resource, and said time zone (security) [Fig. 6]; and

determining charges for accessing said resource based upon said identity of said user, said identity of said resource, and said at least one of a plurality of billing rates (policy and billing capability) [Fig. 6]

Lumelsky does not disclose time zones. However, Coyote discloses that Sprint gives roaming capability to their users (users in different time zones). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lumelsky as taught by Coyote to allow the customers to access system from plurality locations and pay according to the agreement.

Regarding claim 12, Lumelsky discloses usage history (logging individual instances of access to said resource into a history of accesses) [col. 4, line 67].

Regarding claims 13 – 14, Lumelsky discloses policies and billing capabilities. Lumelsky does not disclose how the bill is generated. However, Official notice is taken that it would have been obvious to one of ordinary skill in the art at the time the invention was made that bills for usage is generated by

determining time of usage (usage time for each individual instance of access selected from said history of accesses;

unit rate to be charged to use the system at that time (billing rate corresponding to said usage time from among said at least one of a plurality of billing rates; and

calculating the amount to be charged to the user (computing a cost by summing a cost for each individual instance of access selected from said history of accesses, said cost computed by multiplying said usage time by said billing rate corresponding to said usage time).

For example, monthly usage bill from the telephone service provider. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to Lumelsky billing has necessary steps to generate the bill for customers for invoice them for the money they owe the service provider.

Lumelsky does not disclose time zone. However, Coyote discloses that Sprint gives roaming capability to their users (users in different time zones). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lumelsky as taught by Coyote to allow the customers to access system from plurality locations and pay according to the agreement.

Regarding claim 15, Lumelsky discloses to have Service Level Agreement (Quality of Service) [col. 1, line 54].

Regarding claims 16 – 17, Lumelsky does not disclose how the bill is generated. However, Official notice is taken that it would have been obvious to one of ordinary skill in the art at the time the invention was made that bills for usage is generated by determining time of usage (usage time for each individual instance of access selected from said history of accesses;

unit rate to be charged to use the system at that time (billing rate corresponding to said usage time from among said at least one of a plurality of billing rates; and

calculating the amount to be charged to the user (computing a cost by summing a cost for each individual instance of access selected from said history of accesses, said cost computed by multiplying said usage time by said billing rate corresponding to said usage time).

For example, monthly usage bill from the telephone service provider. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to Lumelsky billing has necessary steps to generate the bill for customers for invoice them for the money they owe the service provider.

Regarding claim 18, Lumineski discloses charging users for storage access in a disk subsystem (policy and billing for users using the system), comprising:

access times, access rates (Quality of Service agreement) [col. 1, line 54]

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contracting with said user to provide storage access based upon a capacity, said at least one of a plurality of permitted access times, and said at least one of a plurality of access rates, said access rates corresponding to said permitted access times [col. 9, lines 61 – 64];

tracking time periods when said user accesses storage in said disk system; determining for said time periods charges to said user for access, said at least one of a plurality of permitted access times [col. 9, lines 61 – 64], and billing capability (determining a total cost from said charges to said users for access) [Fig. 6].

Lumelsky does not disclose time zones. However, Coyote discloses users in different time zones (Sprint gives roaming capability to their users). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lumelsky as taught by Coyote [page 2] to allow the customers to access system from plurality locations and pay according to the agreement.

Regarding claim 19, Lumelsky discloses charging users for storage access in a disk subsystem (has policies and billing capability) comprising:

determining location of a user, permitted access times, and access rates (policies) [col. 9, lines 61 – 64].

contracting with user to provide services (storage access) permitted access times (Quality of Service agreement) [col. 9, lines 61 – 64];

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Lumelsky does not disclose how the bill is generated. However, Official notice it taken that it would have been obvious to one of ordinary skill in the art at the time the invention was made that bills for usage is generated by

usage time for each individual instance of access selected from said history of accesses (determining time of usage);

unit rate to be charged to use the system at that time (billing rate, access rate corresponding to said usage time from among said at least one of a plurality of billing rates; and

calculating the amount to be charged to the user (computing a cost by summing a cost for each individual instance of access selected from said history of accesses, said cost computed by multiplying said usage time by said billing rate corresponding to said usage time).

Lumelsky does not disclose steps to generate bills. Official notice it taken that necessary steps are performed to generate a bill. For example, items (in this application, usage time is the item that the user consumes and is charged accordingly to the usage) are added to generate the bill i.e. monthly usage bill from the telephone service provider. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to Lumelsky billing has necessary steps to generate the bill for customers for invoice them for the money they owe the service provider.

Lumelsky does not disclose time zones. However, Coyote discloses users in different time zones (Sprint gives roaming capability to their users). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made

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to modify Lumelsky as taught by Coyote [page 2] to allow the customers to access system from plurality locations and pay according to the agreement.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 CFR '1.111 (c) to consider the references fully when responding to this office action.


1. Gnesda et al. US Patent 6,721,554
2. An article File Management Firm Nixes Popular Free Storage
3. Distributed Network Storage Service With Quality-of-Service Guarantees
4. Network Transmission And Storage: Vertical Relationship And Industry Structure

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naresh Vig whose telephone number is 703.305.3372. The examiner can normally be reached on M-F 7:30 - 5:00 (Alt Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss can be reached on 703.308.2702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Naresh Vig
April 13, 2004



DEANT. NGUYEN
PRIMARY EXAMINER